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# A Study of Invented Spelling Progress of First Grade Students in Whole Language Classrooms

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A STUDY OF INVENTED SPELLING PROGRESS OF FIRST GRADE  
STUDENTS IN WHOLE LANGUAGE CLASSROOMS

THESIS

Submitted to the Graduate Committee of the  
Department of Education and Human Development

State University of New York

College at Brockport

in Partial Fulfillment of the  
Requirements for the Degree of  
Master of Science in Education

by

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## Table of Contents

	Page
Chapter I	
Statement of the Problem .....	1
Purpose .....	1
Questions to Be Answered .....	1
Need for the Study .....	1
Definition of Terms .....	4
Chapter II	
Review of the Literature .....	5
Writing: The Context of Spelling .....	5
Traditional Spelling Programs .....	8
Invented Spelling .....	9
Advantages of Invented Spelling .....	11
Spelling Stages .....	12
Phonics Within Invented Spelling .....	14
Spelling Strategies .....	15
Information Derived From Spelling .....	17
Role of the Teacher .....	19
Spelling Reality .....	21
Summary of the Chapter .....	21

### Chapter III

Design of the Study .....	24
Hypothesis and Descriptive Analysis .....	24
Methodology .....	24
Summary .....	26

### Chapter IV

Analysis of Data .....	27
Analysis and Interpretations .....	27
Summary .....	29

### Chapter V

Conclusions and Implications .....	30
Conclusions .....	30
Implications for Research .....	31
Implications for Classroom Practice .....	32
Summary .....	34

References .....	36
------------------	----

Appendix I .....	38
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## Abstract

The purpose of this study was to determine the spelling progress of first grade students in whole language classrooms. Using a modified version of Graves' spelling stages, the study investigated students' invented spelling development from October to June.

This study examined the invented spelling stages of development of 128 first grade students in six heterogeneous classrooms, all of which practice the whole language philosophy of learning. The teachers, experienced at assessing stages of spelling development in students' writing samples, assigned a stage of spelling to each student in October and June. Data comparing the October spelling stage means and the June spelling stage means were analyzed using a t-test for dependent means. This analysis of data revealed that students demonstrated significant gains in spelling development, as measured by a modified version of Graves' stages of spelling development.

Students were sub-divided in terms of their October stage of spelling development, after which average growth was measured. Based on the analysis of the data, students at the earlier stages of spelling development made greater progress than those students at more advanced stages of spelling development. Average progress was adversely correlated with spelling stages through stage 5.

Spelling development in whole language classrooms reveals natural spelling development and piques interest in spelling development of students in traditional list-test programs. Examination of the sub-groups also supports the current awareness and appreciation of developmental learning theory, spelling development included.

"It's a damn poor mind that can think of only one  
way to spell a word!"

Andrew Jackson



## Chapter I

### Statement of the Problem

#### Purpose

The purpose of this study was to determine if first grade students in whole language classrooms were making statistically significant spelling progress. Using a modified version of Graves' spelling stages, the study investigated students' invented spelling development from October to June.

#### Questions to be Answered

1. Have first grade students within a whole language program made statistically significant progress through the seven developmental stages of spelling from October to June?
2. What is the average progress through the seven developmental stages of spelling of each group of students who began at the same stage in October?

#### Need for the Study

"Writing touches every part of our lives, and not even the illiterate escape its consequences" (Smith, 1982, p. 7). Writing has recently replaced reading as the central issue of educational concern.

Whether a result of this concern or the reason for this attention, the philosophy and process of writing has dramatically changed for many educators and students. The focus of writing is

on the writing process, rather than only on the product of composition. No longer a separate subject area, writing is an integral part of meaningful daily curriculum. No longer a product of an isolated hierarchy of skills, writing focus is on content with individualized skills instruction at the appropriate developmental stage. Tightly controlled teacher or curriculum driven instruction is being replaced with child-centered teaching and learning.

What has not changed, however, is the way words are spelled in the dictionary. The order of letters in a word remain the same and when words are not spelled correctly, it is very noticeable. Spelling is important.

Zutell (1983) found that traditional list to test spelling did not carry over to unrelated writing. Research by Smith (1982) concluded that traditional spelling can be the greatest obstacle to fluent writing.

How does spelling fit into the philosophy of developmental writing? Language acquisition, in research by Johnson, Langfor, Quorn, (1981), is most effective when the focus is on meaning. Developmental learning theory tells us that children progress at individual rates.

"Inventive" and "functional" are two ways to describe the practice spelling that children use in the writing process. These approximations of standard spelling facilitate the learning process which leads to discovery.

Researchers Gentry (1982), Forester (1980), Axelrod (1988) and Graves (1983) have found patterns in spelling development. In general, children begin with random letters, progress to sound-letter representation and finally become more visually aware of word structure. Progress is a gradual combination of synthesis and integration (Forester, 1980).

The teacher is a key component of invented spelling. The copious drill sheets, workbooks and tests of traditional spelling are being replaced by prolific and meaningful reading, writing and experimentation. The teacher must make meaningful decisions and must be an enabler of writing. Diagnosis, instruction and evaluation are critical tasks.

Evaluation cannot be avoided. Parents, teachers and administrators need to be certain that learning is occurring. The philosophy and process may have been modified, but the goal of learning standard spelling remains unchanged.

### Definition of Terms

**Whole Language:** a philosophy of teaching language in an holistic manner. Instruction begins with the whole (theme, idea, story) and progresses to the parts (paragraph, sentence, word, sound, letter). Teaching follows the natural language process, encompasses all areas of the curriculum and must be purposeful to the child.

**Invented Spelling:** the non-traditional spellings of words that early writers use to convey their messages. Before they know the rules adults use to spell, children use whatever knowledge they possess about their language in their spelling.

**Spelling Stages:** seven developmental stages of spelling, a modification of Graves' Spelling Stages. See Appendix I.

## Chapter II

### Review of Literature

#### Purpose

The purpose of this study was to determine if first grade students in whole language classrooms were making statistically significant spelling progress. Using a modified version of Graves' spelling stages, the study investigated students' invented spelling development from October to June. This chapter first examines current research on the writing process. Further relevant research explores traditional spelling programs, invented spelling, advantages of invented spelling, spelling stages, phonics within invented spelling, spelling strategies, information derived from spelling, the role of the teacher and finally, spelling reality.

#### Writing: the Context of Spelling

Children want to write. They want to write the first day they attend school. This is no accident. Before they went to school they marked up walls, pavements, newspapers with crayons, chalk, pens or pencils...anything that makes a mark. The child's marks say, "I am."  
(Graves, 1983, p. 3).

Researchers have a variety of interesting definitions of what writing means to children. The opening "I am" statement is best reflected in the philosophy of Bissex (1980) who believes that writing is a part of personal development, not

product of an instructional writing skills sequence. Temple, Nathan, Burris, (1982) agree and feel that children learn to write at least as much by discovery as by being taught, essentially making the same discoveries in basically the same order. Clay (1982) believes that when children realize that spoken messages can be written, they have grasped the main concept required for reading, as well as writing, progress. Graves (1984) states that children write in order to read their messages at another time. Acknowledging that communication is certainly one of the primary purposes for engaging in writing, Cambourne (1988) does not feel that it is necessarily the major reason for writing. Perhaps coming to full circle with Grave's "I am" statement, Cambourne (1988) cites Smith (1982) who defines writing as a function of arranging and understanding our lives and our world. He describes writing as a powerful form of extending thinking and learning.

When does writing begin? Temple, Nathan and Burris (1982) support the theory that children embark in the writing process well before they spell or compose. Precursors of writing may be long wiggles, short squiggles, numbers or pictures; marks that may or may not resemble letters. Clay (1982) presupposes that somewhere between the ages of three and five children in a literate culture make marks on paper purposefully. Not necessarily conveying a particular message, these scribbles and mock writing stand for a multitude of possible ideas which they

believe are very important. In fact, 90% of the children believe that they can write when they come to school, in contrast to only 19% who believe that they can read (Graves, 1983). Calkins (1986) believes that children can write sooner than was ever dreamed was possible. She trusts that children will learn to write by writing and believing that "I am the one who writes".

Writing in school traditionally meant pieces of work which were relatively long, not too messy and had no mistakes. A primary student may have interpreted this to mean that he had to write neatly, leave spaces, know words and spell well. Children hardly dared to experiment with the writing process. Numerous educators and researchers agree with Newman (1984) who believes that experimentation is essential for learning language and writing. In other words, writing is a risky business. Classroom teachers, then, are faced with the task of insuring that children feel comfortable in this risky business. Calkins (1986) observes that classroom teachers across the country are encouraging children to write even on the first day of school, saying "You can write and draw".

One of the many facets of writing that children and teachers alike are concerned with is spelling. Recognizing that it is but a surface feature of the writing process, spelling is a feature which is hard to ignore. Graves (1983) defines spelling as a form of etiquette. In addition to showing the reading audience a concern, he and Cambourne (1988) hope that by addressing



spelling, the writer can then focus more on the content of the writing.

### Traditional Spelling Programs

Traditional spelling is what most adults were exposed to. The words for the week were presented on Monday, followed by a week's worth of activities. Students were required to write each word ten times each, write a sentence using each of the chosen words and, finally, to take the dreaded spelling test on Friday. Research concludes that although the average accuracy on the spelling test is 85%, this spelling knowledge does not generally reflect the spelling in an unrelated piece of writing (Graves 1983). Zutell (1973) reports that this weekly spelling list-test format provides little opportunity for conceptualization. He finds such programs promote rote memorization, frequently resulting in inefficient processing, boredom, frustration, dislike for writing in general and lack of carry-over from test to own writing.

The poor speller has consistently felt his writing or his knowledge base, or both, is inferior. Graves (1983) sadly tells us that some intelligent people were discouraged from greatness because they couldn't spell.

Traditional spelling instruction undermines the students' writing in a variety of ways. Graves (1983) points out that traditional spelling takes away the control of writing from



the children by ignoring their urge to show what they know. Traditional spelling underestimates children's ability, places unnecessary roadblocks in the way of their intentions and removes the element of discovery. Spelling, for many, many children, can be the greatest obstacle to fluent writing (Smith 1982). What many adults recall as truths about spelling, Gentry (1987, p. 8) has converted into a list of spelling myths:

Spelling is serious business. Everyone must learn to spell.  
People who can't spell are ignorant.  
Spelling is supposed to be difficult.  
Spelling errors should not be tolerated.  
Good teachers reduce marks for poor spelling.  
Good spellers memorize a lot of information.  
Good spellers master a lot of rules.  
To become good spellers, kids have to do hundreds of spelling book exercises and drills.  
The most important thing about spelling is making 100% on spelling tests.  
Spelling is right or wrong. Good teachers always correct spelling.

### Invented Spelling

In contrast to the rigid expectations and activities of traditional spelling, a developmental spelling philosophy has recently emerged. Psycholinguistic descriptions of language acquisition, as cited, by Johnson, Langford, Quorn (1981), suggest that language is learned holistically and is acquired most effectively when focus is on meaning. Developmental learning theory tells us that children progress through stages of learning at individual rates. Language

acquisition and cognitive development are connected. Forester (1981) confirms that spelling, like learning to speak, does not seem to be amenable to being accelerated. She believes that meaningful practice should be encouraged. "Invented" is the term Read (1975) uses to describe functional, or practice, spelling in early writing. As defined by Sowers (1988), invented spelling is the name for children's misspellings before they know the rules adults use to spell, often before they know how to read. Cambourne and Turbill (1987) refer to this form of spelling as "temporary" or "functional" for two reasons. They find that the term "inventive" may carry negative connotations for some parents and teachers. Secondly, they believe that "temporary" more realistically describes this behavior especially in light of the developmental aspect of learning. To generalize, children are making connections among sounds, symbols and visual images as they are spelling (Cambourne 1988), attempting to create meaning in their writing (Cambourne and Turbill 1987).

Axelrod (1988) states that this early experimentation with scribble writing and invented spelling must be valued and fostered in the same way that we appreciate early speaking and drawing. Whether it is the composing, punctuation, handwriting or spelling, there is evidence that inventiveness exists, right from the start. From the child's perspective, those who want to write have little choice but to invent spellings (Smith 1982). It is difficult to ignore the inventiveness of children's spelling

because, in the early stages of writing, they have fewer correct spelling at their command (Smith 1982). In addition to valuing the development of children and the alternatives they have when they write, invented spelling is a learning process.

To put spelling in perspective, it must not be separated from the writing process. As stated by Turner (1984), to keep spelling away from composing is to deprive children of the relevance and experimentation that leads to discovery and constant practice in interesting situations which lead to learning. Turner described the learning of spelling apart from writing the same as learning music theory without playing music.

#### Advantages of Invented Spelling

When people write letters, signs, poems, research papers, lists, recipes, stories, anything, the focus is on the message. Invented spelling allows children to focus on the content of the piece, not to stumble on the mechanics (Hansen 1987, Butler and Turbill, 1984). It is more important to have the children feel free to express their thoughts than to write down only what they can correctly spell (Axelrod 1988). Thoughts flow more freely, language is more natural and words are more interesting. Children are given the opportunity and encouragement to create writing, to create meaning using unconventional spellings (Cambourne and Turbill 1987).

The aforementioned focus and freedom gives children control of

their own writing. Invented spelling fosters independence in writing content, word choice and handwriting. Children rely less on the teacher. They rely on their peers not for absolute information but rather as confirmation and inquiry. Children become active thinkers and decision makers (Hansen, 1987).

Another advantage of invented spelling is that it develops spelling consciousness through daily writing (Gentry 1982). Children will hypothesize and speculate about words. Their listening skills improve as they become actively involved in their own spelling.

### Spelling Stages

Invented spelling has grown from the knowledge that learning is developmental. Gentry (1982) tells us that learning to spell is like learning to speak: babbling, first words, two-word utterances and finally, mature speech. A similar pattern in spelling, children begin with low-level strategies, moving to more complex patterns as they self-correct and refine their language. Forester (1980) confirms that as children traverse through stages of spelling they vary in length of time at the various levels, overlapping and regressing at very early stages. Learning is not a linear process, but one of gradual synthesis and integration.

Gentry (1982) has detailed spelling at five developmental levels. The first, the pre-communicative stage, finds



children writing with random letters which do not represent corresponding sounds. Stage two is called the semi-phonetic stage, typical of partial sound to letter representation. Children generally do not project the complete sound structure of words to letters. When children represent all of the surface sound features of words, they demonstrate phonetic spelling. The basic strategy of this stage is to spell the way it sounds. Children are aware of and make use of the major speech sound categories in a systematic, sophisticated and perceptually accurate manner. Stage four Gentry calls the transitional stage. With less reliance on sound, there is a move to more abstract representation, particularly visual memory. At this stage children become more aware of the conventions of English spelling and more vowels are used. Mature spelling is the stage represented by developmentally correct spelling.

Axelrod (1988) recognized these spelling stages as well as adding one stage, the scribbling stage, as a precursor to the pre-communicative stage. Graves (1983) evaluates and labels his stages of spelling development more specifically related to the letters used. His Stage I represents use of initial consonant, Stage II uses initial and final consonant, Stage III spelling has initial, final and interior consonant, Stage IV is represented by initial, final and interior consonants and the vowel place holder. The vowel is incorrect but in correct position. At Stage V the child has the full spelling of the word, with final

components from visual memory and vowel discrimination skills. Gentry (1982) believes that changes from one spelling stage to the next is more or less gradual, with samples of more than one stage co-existing in a particular sample of writing.

### Phonics Within Invented Spelling

Transitional spelling is the term used by Temple, Nathan and Burris (1982) to describe another aspect of invented spelling. They observed children writing, instead of on a letter-name basis, using features of standard spelling in not exactly correct form. The children were experimenting with standard spelling forms which they knew, as they were coming to grips with our systems of generalizations in the English language. One example of this stage might be a child writing "ingk" for the word "ink".

Within this process of inventing words, children are constantly in the world of phonics. Traditional phonics instruction generally included phonics skills sheets and focusing on sounds in isolation. This program missed rather than hit the needs of many children. Hansen (1987) insists that it also demanded accuracy, regardless of the child's stage of learning. Children were rewarded for learned behaviors rather than the behavior of learning, defying the child's need to gradually figure out the system of spelling words.

Phonics is continuously being built up through invented spelling as the children realize that sounds are a tool they must

acquire (Hansen, 1987). Through daily writing and sharing, children value letters and sounds because they have a purpose. Hansen (1987) observes that young children frequently demand help with sounds and spelling because they have a limited command of phonics, so getting their ideas down is difficult. Too much emphasis on phonics even within invented spelling will reduce the children's confidence, thus discouraging children from writing words they are not certain about (Manning, Manning, Kamii 1988). They also found in one study of phonics instruction for beginning readers and spellers, the phonics led to preoccupation with how to spell words which the children already knew. It also diverted their attention from the thoughts and ideas of their writing. Tovey (1978) confirms that, although children demonstrate extraordinary abilities to "sound-out" words, the lexical nature of English orthography make these spellings unacceptable. He cautions over-emphasis on sounding-out and suggests that children also be conditioned to think of spelling in terms of visual patterns. It is vital, therefore, that the phonics instruction given in any program fits into the stage of development and spelling system of the individual.

### Spelling Strategies

As children need to pay attention to the details of words, they learn to think actively. When asked how they figured out how to spell a word, Hansen (1987) found that children had

difficulty explaining. The most predominant strategy, cited by Hansen (1987) was phonemic segmentation, or sounding it out. Cambourne and Turbill (1987) believe that as children use invented spellings they gradually move through a series of approximations to conventional spelling, experimenting with different unconventional versions of the same word. They cite Bouffler's work of 1984, which identifies and describes a range of strategies which young writers frequently employ:

1. Spelling as it sounds, e.g. STASHON for STATION
2. Spelling as it "sounds out", e.g. HUW for WHO
3. Spelling as it articulates, e.g. CHRIDAGEN for TRIED AGAIN
4. Spelling as it means, e.g. SIGN-SIGNAL
5. Spelling as it looks, e.g. OEN for ONE
6. Spelling by analogy, e.g. REALISTICK for REALISTIC
7. Spelling by linguistic context, e.g. ENY for ANY
8. Spelling by reference to authority, e.g. looking up a word.
9. Opting for an alternative word, e.g. NICE instead of BEAUTIFUL
10. Placing onus on the reader, e.g. using poor handwriting

Cambourne and Turbill (1987) find that one or more of these strategies are involved in invented spelling as they interact with each other and the entire writing process. They insist that spelling is not a single skill.

Other coping strategies children use may be drawing or scribbling in the very early stages. They also search the environment for print. These words may be used correctly or sometimes given another meaning. Children may ask another child or adult for assistance. Or, as children told Hansen (1987) they



used rhyming patterns, found it in their own writing, found it in a book or figured it out myself.

Gentry (1982) and Parry and Hornsby (1985) group spelling strategies into three groups; visual, phonological and morphonological. Some familiar words contain unfamiliar letter patterns relating to the sounds and cannot be sounded out. These words, fuchsia for example, rely on visual memory. Other words which may not be in one's oral vocabulary and not familiar in any other way need to be sounded out. Medical terms are a good example of these words. Morphemic knowledge is helpful in considering the parts of words, such as base words, prefixes and other parts of meaning.

#### Information Derived From Spelling

What one may consider errors in children's spelling is a part of their effort to build a coherent system of writing. Zutell (1973) believes that children construct their own rule system, testing and revising depending upon the feedback they receive and their own developmental patterns. These errors are progressively corrected by the children themselves (Kamii, Randazzo, 1988). In a study by Sowers, (Newkirk, Atwell 1988), she found that there are two keys to understanding spelling errors in invented spelling. Early spellers rely on the place of articulation in the mouth as well as their ears and eyes, whereas more experienced spellers rely mainly on their ears,

eyes and knowledge of word meanings. The results are different kinds of spelling errors. Misspellings are a signal for where children need help most so there is value in errors. It is important to recognize children's misspellings as signs of their advances in spelling development rather than faulty functioning (Forster, 1980). Clay (1982) maintains that all of these approximations are indications of the children reaching out towards principles of our written language.

Children's spelling indicates a great deal about what they know. It shows the language they are comfortable with, which words they consistently remember how to spell and where they are having difficulty. This valuable information serves one very critical purpose. Hansen (1987) contends that invented spelling requires a philosophy of response. The response is to teach them what they need to learn. Spelling, then is not left to chance nor taught the same to every child, but rather individualized to the needs of the individual.

Piaget's theory of constructivism relates well to invented spelling (Kamii, Randazzo 1988). In their quest for coherence, children construct knowledge by modifying previous ideas, rather than gathering bits of information from the outside and adding them to their knowledge base. Forester (1980) also concludes that children's spelling evolves to fit adult standards if children are given the opportunity to learn to spell when they generate, test and refine their inner code. Piaget also insists that



social interaction is important for the construction of knowledge. Kamii and Randazzo (1988) translate this into implications for invented spelling. Children are encouraged to give information in response to requests from peers. The children are then invited to evaluate each other's ideas and come up with their own conclusions. There is freedom to accept or reject the responses. These peer interactions, they feel, are more valid than interactions with the teacher who already knows the answer.

#### Role of the Teacher

The teacher is central to the development of spelling. More than ever existed in the traditional spelling program, the teacher is in control as much as the children are in control of their learning. Not to be confused with power, the teacher makes meaningful decisions instead of following a manual. The teacher must first become an enabler of written language. Teachers must appreciate ideas even without conventional spelling and see the fruits of their spelling concepts rather than their ability to memorize words. Newkirk and Atwell (1988) point out that invented spelling makes diagnosis children's rules for spelling possible. Instruction should follow conferencing about the content of writing. The goal should be to improve each child's spelling appropriate to the level of ability (Temple, Nathan, Burris 1982). In general, they suggest that principles of spelling

should be taught, although there are times to teach individual words.

Cambourne (Cambourne and Turbill 1987) has developed a model of learning which facilitates literacy. These seven conditions of learning reflect what we know about how children learn.

IMMERSION, learners need to be surrounded with meaningful print.

DEMONSTRATION, teachers model how language and print work, constantly demonstrating how reading, writing and spelling are interrelated.

RESPONSIBILITY, teachers organize classroom and activities in a manner which allows the learners to make decisions about learning,

EXPECTATIONS, Teachers are responsible for setting expectations of students. They need to be positive and meaningful.

APPROXIMATIONS, learners must be free to have a go and realize that errors are essential for learning to occur.

RESPONSE, Teachers provide supportive and instructive feedback and encourage students to do the same.

ENGAGEMENT, Teachers provide time and opportunities for learners to practice what they are learning.

These conditions of learning can be applied to all subject areas in school, spelling included. It does require that teachers be "kid watchers" and value exploration. They need to be patient, to value individuality, and to celebrate progress. Calkins (1986) and Walshe (Turbill 1982) both stress that the daily influences of and integrated listening, writing and reading

program will wonderfully and quickly move children toward standard spelling.

### Spelling Reality

Now is the time to replace Gentry's (1987, p. 11) myths about spelling with reality:

Some smart kids have trouble with spelling.  
Too much focus on "correctness" is bad for spelling.  
Copying words and focusing on mechanics don't ensure the  
the development of correct spelling.  
Kids learn to spell by inventive spelling.

Spelling is hard work. Spelling is a worthwhile activity. Learning to spell, Beers and Beers (1981) point out, goes beyond phonics, is not a memorization process and can only develop through children's own writing attempts. Invented spelling values the message and values learning. To encourage invented spelling is not to imply that spelling does not matter. Instead, spelling is put into perspective.

Within this whole language philosophy, within this movement called invented spelling, the bottom line still is whether students are learning how to spell. Parents and teachers need desperately to be reassured that students are progressing toward becoming standard spellers. The process may have been modified but the goal remains the same.

### Summary

Children inherently want to write. Traditional writing



programs expected children to write neatly, compose certain length pieces, know words and spell well. Newman (1984) is one of several researchers who believes that experimentation is essential to learning language and writing.

The traditional spelling programs promote rote memorization and takes away the control of writing from the children. With emphasis on "correct" spelling, spelling can be the greatest obstacle to fluent, natural writing.

Invented spelling is the non-standard spelling that children use as they practice the conventions toward standard spelling. The students are actively involved as they approximate standard spelling.

Invented spelling allows children to focus on the content of the piece, not to stumble on the mechanics (Hansen, 1987, Butler and Turbill, 1984). Children are now able to write more freely, to really create writing. Through daily writing they develop a spelling consciousness (Gentry, 1982). Spelling, like all learning, is developmental. Forester (1980) is one of several researchers who found patterns in spelling development. Spelling progress can be described in stages of development.

Phonics is continuously being reinforced through invented spelling as the children realize that sounds are a tool they must acquire (Hansen, 1987). Phonics instruction must fit into the developmentally appropriate stage of development and spelling system of the individual.

As children approximate standard spelling, they experiment with different unconventional versions of the same word (Cambourne and Turbill, 1987). Gentry (1982) and Parry and Hornsby (1985) group spelling strategies into three groups: visual, phonological and morphonological.

Children's invented spelling tells us a great deal about what they know. Spelling miscues can also signal where children need help most.

The teacher must be an expert kid-watcher, first and foremost. The teacher must value exploration and individuality, understand developmental learning theory and to celebrate success.

Invented spelling puts spelling into perspective. Spelling is important. Spelling is hard work. It is a worthwhile activity. Standard spelling is still the goal of spellers. This study examines the progress of young spellers as they develop into standard spellers.

## Chapter III

### Design of the Study

#### Null Hypotheses

There will be no statistically significant progress of first grade students' development through the seven stages of spelling from October to June.

#### Descriptive Analysis

After sub-dividing the sample in terms of the October stages of spelling development, the average growth rates of each sub-group will be examined.

### Methodology

#### Subjects

The subjects of this study comprised 128 first grade students from a suburban school in western New York state.

Subjects' writing/spelling abilities ranged from below average to high average. Those students with suspected or labeled handicapping conditions or those students who were going to be retained were excluded from the study. The subjects came from six separate classrooms, all of which embrace and practice the whole language philosophy of learning.



## Materials

Materials for this study consist of:

1. Stages of spelling development description sheet.
2. Students' writing samples.
3. Teachers' evaluations of students' spelling stages in

October and June.

## Procedures

Six teachers of first grade students evaluated their students' spelling stage of development, as described in the modified version of Graves' spelling stages. (Spelling stages are located in Appendix I.) Having four years experience in assessing spelling stages, the teachers analyzed numerous writing samples. Teachers assigned a stage of spelling to the students in October and in June. The researcher in this study was one of the six participating teachers.

## Analysis

A t test for dependent means was used to determine the significance of the differences between the October stages of spelling development and the June stages of spelling development.

Differential growth of grouped students of like beginning spelling stages was described to determine average rates of progress.

### Summary

This study examined the spelling progress of 128 first grade students instructed with the whole language philosophy of writing. Teachers assigned a spelling stage to their students' developmental level of spelling, using an adapted version of Graves' spelling stages, in October and in June.

By grouping the students according to their October spelling stages, average progress with each of these groups was analyzed.

## Chapter IV

### Analysis of Data

#### Purpose

The purpose of this study was to determine if first grade students in whole language classrooms were making statistically significant spelling progress. Using a modified version of Graves' spelling stages, the study investigated students' invented spelling development from October to June.

#### Analysis and Interpretations

The null hypothesis investigated in this study was as follows:

There is no statistically significant progress of first grade students' development through the seven stages of spelling from October to June.

The descriptive analysis investigated in this study was as follows:

After sub-dividing the sample in terms of the October stages of spelling development, the average growth rates of each sub-group are compared.

The null hypothesis stated that there was no statistically significant progress of first grade students'

development through the seven stages of spelling from October to June. A t test for dependent means was used to determine the significance of the difference between the October stages of spelling development and the June stages of spelling development. The data used to compare the first assigned stages of spelling development to the final assigned stages of spelling development are listed in Table 1.

Table 1

Analysis of October and June Stages of Spelling Development

	N	Mean	sd
October Stages	128	3.14	1.494
June Stages	128	5.28	.86

t value = 24.88      df = 254      crit t = 1.98

Since the t value required was 1.98 and the t value obtained was 24.88, the data rejected the null hypothesis. There was a significant difference between the mean scores of the October spelling stages of development and the June spelling stages of development. This indicates that a significant gain was made by this sample that cannot be attributed merely to chance.

The descriptive analysis compared the average growth rates of the sub-groups, as determined by the October stages of

spelling development. The mean progress of each sub-group was calculated. Growth, found in Table 2, is described in number of stages, with minimum growth being zero stages and maximum growth being six stages.

Table 2

Analysis of Mean Growth of Spelling Sub-Groups

	N	Mean Growth	Average June Stage
October Stage 1	26	3.42	4.42
October Stage 2	19	3.0	5.0
October Stage 3	27	2.19	5.19
October Stage 4	27	1.48	5.48
October Stage 5	25	.96	5.96
October Stage 6	4	1.0	7.0

Summary

The results of the analysis of the data indicated a statistically significant gain in spelling stages between October and June. It can be concluded, therefore, that the sample students' spelling growth cannot be attributed merely to chance. In analyzing the mean growth of the spelling sub-groups, the students at the earliest stages of spelling made the most significant growth. The difference in the range of spelling stages in October was 5, whereas the difference in June was 2.58 stages.



## Chapter V

### Conclusions and Implications

#### Purpose

The purpose of this study was to determine the spelling progress of first grade students in whole language classrooms. Using a modified version of Graves' spelling stages, the study investigated students' invented spelling development from October to June.

#### Conclusions

The following conclusions can be drawn from analysis of the data of subjects studied:

The null hypothesis was rejected, indicating a statistically significant difference in students' October stages of spelling development and their June stages of spelling development. This data supports current research by Graves (1984), Butler and Turbill (1984), Smith (1982) and numerous others that reveals the whole language philosophy of learning cultivates competent spelling progress. At the core of whole language, and supportive of spelling progress, are Cambourne's conditions of learning. Within this atmosphere, students have the opportunity to be surrounded by print, to experiment without being criticized, to practice and to receive feedback, all of which facilitate meaningful learning. Whole language classrooms give

students the opportunity to experience how language needs to be organized - in wholes. Students learn the conventions of spelling within the context of meaningful reading and writing, it's as simple as that.

Data collected from the sub-groups' spelling progress demonstrates that there is a negative correlation between the October levels of spelling development and the gains made between October and June. Students at the earliest stages of spelling in October made the most progress. That data also reveal that there is a wide distribution of spelling levels in October. In June that distribution had narrowed considerably, with 76% of all sample students within the 5.0 - 5.96 stage of spelling. This is indicative of the developmental nature of spelling development, and learning in general. Gentry (1982) is one of several researchers who supports the theory that spelling is a complex developmental process.

#### Implications for Further Research

The results of this study suggest further examination of spelling progress between whole language classrooms and traditional basal approach classrooms. In this proposed study, confirmation or rejection of spelling gains due to the whole language philosophy of learning could be analyzed. That research, when compared with this study, could also investigate whether spelling progress is strictly developmental or is

influenced by teaching philosophy.

The distribution of the sub-groups of students in this study lends itself well to further study of whether there is a correlation of spelling development to writing development. In assessing writing skills development, it would be interesting to discover if the more skilled students were also the better spellers.

Research by Parry and Hornsby (1985), among others, tells us that visual strategies to learn spelling are the skills of the mature spellers. An interesting possibility for further study would include a comparison of spelling development to reading development.

#### Implication for Classroom Practice

The heart of the classroom is the philosophy of learning. The whole language philosophy of learning is child-centered. The whole language classroom is an integrated classroom, where listening, speaking, writing, reading and content areas are combined to make learning interesting and meaningful.

Research supports the child-centered classroom where students can feel safe to write and spell without fear of misspelling. This allows them to use interesting language and make intelligent choices about topics and words. As Turbill (1982) says, students become masters of their own learning. Atmosphere, therefore, is vital to successful learning.



This whole idea of writing encourages spelling. Writing occurs to provide an opportunity to practice. Purposeful writing experiences should be fun and functional, should be natural and should be done frequently. Through writing, students develop a spelling consciousness. Teachers facilitate interest in words through word study and word games, teaching spelling skills in the process.

The teacher must be a keen observer and an able assessor of progress. Spelling discloses what students do and do not know about standard spelling. Spelling provides clues for instruction. The teacher must then build on what the student knows, teaching to the appropriate level of ability. Instruction is individualized and positive, always giving proud recognition to spelling effort.

Parents also are vital to spelling development. They need to be informed of the stages of spelling, which is likely to be contrasting to how they learned to spell. Teachers need to educate parents on ways they can help, such as providing appropriate writing materials, encourage meaningful writing (shopping lists, letters, messages, etc.), value invented spelling, read to children daily and provide a role model of reading and writing.

### Summary

Based on the analysis of the data, first grade students in whole language classrooms made statistically significant gains in spelling development between October and June. Sub-groups of these students were also studied. Mean growth of these groups ranged from 1.0 to 3.42, inversely correlated with their October spelling stages.

It can be concluded, therefore, that the whole language philosophy of learning promotes significant spelling development. From the information derived from the study of sub-groups, it is evident that spelling is a developmental process. The negative correlation between the October spelling stages and mean growth, as well as the distribution of students within the spelling stages supports this assumption.

Further research is needed to confirm spelling gains as a result of the whole language philosophy. This could be accomplished by comparing the spelling development of whole language students and traditional students. Whether spelling is developmental or influenced more by the philosophy of the classroom would also be revealed by the same study. A study on the correlation between writing development and spelling development is needed. Further research is necessary to discover the correlation between spelling development and reading development to understand the process of learning to spell.

Teachers need to create child-centered, integrated

classrooms where experimentation and risk-taking is valued. Writing must be purposeful, natural and frequent. Spelling needs to be put into perspective. Instruction is individualized and at the appropriate level, taken from what the student knows about spelling words. Parents need to be educated to promote functional writing and spelling without stress for parent or child.

The positive conclusion of this study is that spelling progress is made within whole language classrooms. This environment fosters taking risks, sharing what you know, watching others, making decisions, having a purpose, celebrating success and understanding how language works. Learning how to spell happens!

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## APPENDIX I

### Modified Version of Graves' Stages of Spelling Development

STAGE I - <u>Use of random letters only</u> Child does not make use of his/ her knowledge of letters or sounds in his/her writing.	dvktm	(grass)
STAGE II - <u>Use of initial consonant</u> Child writes only the first sound he/she hears in a word or the first sound followed by random letters.	g or gktm	(grass)
STAGE III- <u>Use of initial and final consonant</u> Child uses the first and last letter he/she hears, often with nothing else in between.	gs	(grass)
STAGE IV - <u>Use of initial, final and middle consonant</u> No vowels are used yet.	grs	(grass)
STAGE V - <u>Use of initial, final, middle consonants and a vowel "place holder"</u> The vowel is incorrect but in the correct position.	gres	(grass)
STAGE VI - Child has <u>near conventional spelling</u> but misses double consonants and silent letters.	gras	(grass)
STAGE VII- Child has <u>full conventional spelling</u> . The double consonants and silent letters are coming from visual memory of conventional spellings.	grass	